

# PHILADELPHIA MEDICAL TIMES.

SATURDAY, AUGUST 7, 1875.

## ORIGINAL COMMUNICATIONS.

### ATHEROMA.

BY J. MILNER FOTHERGILL, M.D. EDIN.,

Member of the Royal College of Physicians of London; Junior Physician to the West London Hospital.

THOSE changes which go on in the coats of blood-vessels, and are denominated atheroma, or endarteritis deformans (Virchow), form a most important part of pathology, and are also of equal importance when considered clinically. Of recent years much light has been thrown upon this previously dark piece of pathology, and from very hazy and erroneous views in the past we now possess a pretty distinct knowledge of the nature and causation of atheroma. For the initiation of our present knowledge we are indebted to Virchow. By his observations as to the method of growth of parenchymatous inflammations and of the slow growth of pathological connective tissue in various organs, the portal was opened and a path revealed which led directly to the correct interpretation of chronic changes in the walls of blood-vessels.

The morbid change known as atheroma consists of a growth of connective tissue beneath the tunica intima. At first there is but a slight thickening of the arterial coat, and the lining of the vessel is smooth and unaffected. In time, however, the tunica intima is involved, and the surface is very level or puckered. This morbid change may either be localized or general, according to circumstances. In the one case aneurism is the common consequence of the disease; and one part of the arterial system being diseased, the blood-pressure within the elastic bag—for that is what the arterial system actually is—distends or ruptures the affected part, and then there is a bulging of the external coat of the vessel. It does not follow that there shall have been any actual ulceration in the atheromatous patch: some unusual distention, either from a general rise in blood-pressure, or more often some effort impeding the flow in the diseased vessel, or some blow, rupturing the weakened walls, may occasion an aneurism. It is a disputed point whether or not an aneurism can arise in perfectly healthy blood-vessels. In the great bulk of cases, however, there is no doubt that the structural integrity of the arterial walls has been affected. It is at points of flexion, as the ham and the axilla, that this change is most frequent in an arterial system generally sound, or at points exposed to strain, as the outside of the aortic arch.

These localized atheromatous changes are less interesting than is general atheroma, except so far as they point to strain as the great cause of this growth of connective tissue in arterial walls. The evidence they thus furnish as to the causation of atheroma is invaluable. The researches of various writers, English and foreign, have collected together such a bulk of testimony as to the association of

atheroma with strain, that the subject of atheromatous change is no longer a doubtful one. The most striking illustration of the cause of this change is furnished by the fact that the lesser or pulmonic circulation is never, or almost never, the seat of such change so long as the mitral valve is healthy and competent, and the circulation in the lungs unimpeded. When, however, this valve becomes diseased, the blood-pressure in the pulmonic circulation rises, and a parenchymatous inflammation is instituted, which is found alike in the pulmonary artery and in the lining membrane of the left auricle. A thickened condition is found in all the coats of the blood-vessels, from the little festoons of atheroma in the pulmonary valves to the lining of the muscular chamber behind the lesion.

Strain leads to growth, and that growth is usually excessive and ill regulated, and consequently distorting. It need not necessarily be so, however. In a most interesting case recently reported by Dr. A. Wynne Foote, of Dublin, where old-standing interstitial pneumonia had led to extensive changes in the right heart, there was no atheroma. The pulmonary artery was as large and thick in its walls as a normal aorta. The pulmonary valves were also changed, being hypertrophied, and possessing corpora arantii, but free from valvulitis. The right ventricle was hypertrophied and dilated.

In this case the hypertrophy of the ventricle was accompanied by growth in the valves and arterial walls,—a corresponding growth, indeed, but so exquisitely balanced that there was really abnormal tissue-growth which had not run into disease. This case is most instructive. It demonstrates that other parts of the vascular system than the muscular can grow and increase in strength by development of normal histological elements. Hypertrophy of the muscles is accompanied by other tissue-growth until all the parts are strengthened. Unfortunately, however, this development of connective tissue is not often so neatly apportioned to the increased demand in the part as in the case just quoted; and so we have valvulitis and endarteritis deformans. The growth becomes excessive, and is not sufficiently well regulated, and then it becomes disease. It is but normal nutrition run riot, rather than a morbid process *per se*.

What course, however, that growth of connective tissue will take depends very much on its environment and the condition of the system in which it occurs.

Ere proceeding, however, to consider the circumstances under which atheromatous growth becomes itself degenerate, it will be well to consider its production and origin.

General atheroma is most commonly found in the subjects of chronic Bright's disease, especially where the morbid change affects the circulation chiefly. The effects of imperfect blood-depuration are felt very variously by different individuals. One will have articular gout; another will have gouty bronchitis; a third, eczema; a fourth, muscular rheumatism; a fifth, indigestion; a sixth, neuralgia,—all as the consequences of lithiasis, or blood charged with

excessive nitrogenized waste. According to the diathesis of the individual and the circumstances of the person, or of excessive use of any part, will be the outward manifestations of the one causal condition,—lithiasis.

In some families the circulatory system is ever involved; in others, again, different parts are affected, but the circulation remains unimplicated. Why this variation should occur is yet unknown,—is perhaps unknowable. Very commonly the circulation is affected as one of the outcomes of kidney-disease.

Thanks to the observations and investigations of Traube,\* George Johnson, Grainger Stewart, and others, the relations of these morbid changes are well understood, and form the most complete pathological process with which we are yet acquainted.

It can be briefly described thus: First comes imperfectly depurated blood; secondly, arteriole spasm; and thirdly, a rise in the blood-pressure. This last can be seen in a sphygmographic tracing long ere it can be recognized otherwise. The consequence of the persisting arteriole spasm is hypertrophy of the muscular coat of the arterioles, by which the high blood-pressure is maintained. This rise in the blood-pressure obstructs the blood-flow from the ventricle in its systole, and hypertrophy of the left ventricle follows (in some cases, chiefly in women, the hypertrophy is blended with dilatation). Betwixt the two hypertrophied muscular ends of the arterial system the pressure within the elastic arteries is heightened very markedly, and then the over-distention (*überspannung*) leads to the growth of connective tissue in the elastic arteries. That growth of connective tissue is atheroma.

Along with such atheroma we commonly find aortic valvulitis. The heightened blood-pressure and distention of the elastic arteries produces a stronger arterial recoil, and the aortic valves are closed violently, and consequently valvulitis ensues. The loud and accentuated aortic second sound so produced is insisted upon by German writers as one of the most important indications of chronic renal disease (Rosenstein, *Nierenkrankheiten*, zweiter Auflage, 1870). It will generally be found along with rigid and atheromatous vessels, a well-sustained pulse, and the general systemic indications of chronic Bright's disease. The tortuous temporal artery, so often found under these circumstances, appeals to the eye at once, and the hard and elongated radial artery is equally suggestive to the touch. The persistent high arterial tension has produced a general growth of connective tissue in the arteries, which are in time rendered rigid and brittle by the progress of the morbid change. In consequence of the high blood-pressure and the changes in the arterial coats, apoplexy from rupture of one of the intracranial vessels is very apt to occur. Constantly do we find apoplexy occurring under such circumstances.

But in time the scene changes, and a new set of

conditions is instituted. The general atheromatous changes are more pronounced at points and parts that are the seat of unusual strain. The coronary vessels of the heart become specially affected from the strain to which they are subjected by the recoil of the highly-distended aorta. Springing as they do from the base of the aortic column, they are subjected to the full force of the aortic recoil, and the special distention, added to the general high blood-pressure, produces decided atheromatous changes. This leads to consequent imperfect nutrition, and in time the structure of the hypertrophied heart becomes undermined by molecular necrosis, denominated fatty degeneration of the heart. The different muscular fibrillæ become broken down into a row of fat-cells, in advanced cases. As a consequence of this change, sudden death from asystole is common in the subjects of advanced atheroma. The growing weakness of the decaying heart, however, lessens the liability to arterial rupture, and consequently fatty degeneration has been said to be in so far a preservative lesion.

Attacks of angina pectoris, more or less perfect, are commonly found under these circumstances, and are due to sudden rises of blood-pressure (Lauder Brunton) before which the ventricle falters and not rarely fails. These observations of Brunton, that led to the employment of nitrite of amyl, which dilates the terminal vessels and lowers blood-pressure, mark a new era in medicine, and point the way to the successful palliative treatment of a large class of cases hitherto intractable, because we knew not their pathology and the means of relieving them.

Dr. Moxon, in a remarkable paper on the Nature of Atheroma in the Arteries (*Guy's Hospital Reports*, 1871), gives a plate illustrating the morbid changes. I here copy the letter-press accompanying it.† “Fig. 1. Longitudinal section through a portion of the thoracic aorta, showing a diseased patch. In examining this there are seen, 1, the outer coat swollen, and at the confines of and throughout the diseased patch becoming indistinguishable from it; it blends with the tissue around; 2, the middle coat traced up to the patch, divided into shreds, and spread out in the thickened patch, reappearing in flecks on the section here and there; the change in the middle coat is rather abrupt; 3, the internal coat continued over the patch, rather thickened, pellicular, and bluish in color.

“Fig. 2 shows a part of a thin slice from the section shown in Fig. 1, examined with one-fifth inch objective. *a*. Deep part of the inner coat, composed of fibrillar-looking substances (edges of laminae for the most part). In the part near the middle coat are numerous corpuscles. *b*. The line marking the commencement of the middle coat. This still is composed of elastic fibres, but beneath this, at *c*, corpuscles in great numbers separate the fibres into patches. *d* shows muscular fibre, still persistent; and *e*, elastic fibres, likewise persistent, among crowds of the inflammatory corpuscles; *f*,

\* Traube's views will be found in an inaugural dissertation by Jacob Szostakowski: *Ueber atheromatöse Degeneration der Arteria bei Nierenentzündung*, 1869, Berlin.

† The description is such that a vivid impression is created without the aid of the plates.

fatty degeneration of the elastic fibres; and *g*, of the muscle-cells. At *h* a relation of the corpuscles to the vasa vasorum appears to exist."

This gives the microscopic condition of well-developed atheroma very completely, and the relations of the new growth to the normal tissues are well shown.

When this atheromatous change commences in a localized form, at first it appears as white opaque patches of an irregular circular form, single or several aggregated, rising a little from the surface of the inner lining of the vessel, but for some time the surface is smooth. When the atheroma is more general the aorta presents the appearance as if myriads of grains of rice of unusually small size had been placed under the tunica intima. As the disease advances, the whole arterial wall becomes involved, until the aorta feels like a piece of leather. The first or localized change is apt to occur at points exposed to much strain; the more general change involves more or less all the large vessels.

The progress of the atheromatous process is very different in various individuals. Thus, in one the localized spots of atheroma will pass from a semi-fluid mass of round and spindle-shaped cells into calcareous plates, by the deposit of lime salts, which plates may ultimately become loose, and wash off into the blood-stream; or a process of fatty degeneration in the new growth sets in, and then the mass becomes the purée of peas, a collection of fatty corpuscles, débris, and cholesterine scales, which is apt to wash away piecemeal into the blood-current, leaving the atheromatous ulcer (*geschwür*). Around the aortic valves and the coronary vessels the cell-growth is apt to form excrescences which, becoming infiltrated with lime salts, form little, rough, mortar-like masses, or the valves become themselves stony.

Similar changes go on in the more general form, and the morbid process may result in a general calcification of the diseased vessels, until the arteries are not unlike so many clay tobacco-pipe stems, in which almost all pulsation is lost; or in a condition of general thickening of the arteries, which, however, still preserve a soft feel, and are liable to undergo degeneration; or, again, merely a general hardness with elongation results.

These changes are clinically very interesting, especially in the latter two forms of general atheromatous changes. In those cases where the arterial coats are distinctly thickened, but still soft and fairly compressible, there is also commonly a greasy, degenerate skin, and an arcus senilis, with muddy, blurred outlines, and a cornea cloudy and hazy from the infiltration of fatty corpuscles through its structure. On the other hand, where the arteries are rigidly incompressible and exaggerate the ventricular impulse, with a square-headed pulse-curve and a slow rise, there is usually a dry, even harsh, skin, and either no arcus senilis, or it is sharp, well defined, and of a blue color, with a clear cornea. The difference in these two contrasted conditions is that the one shows a much more marked tendency to degenerative change in the altered vessels, while the other is rather the change almost normal to age.

Clinically and prognostically it is not unimportant to note which form presents itself. The calcified arteries are equally distinct, and mark a degeneration of kind other than fatty. In the intelligent comprehension of the progress of this morbid change, known as the atheromatous process, and in order to understand the various directions the morbid process may take, we must remember the influence of the environment, the circumstances under which this growth of pathological connective tissue shows itself. The results vary from the scars of Dittrich to the formation of dissecting aneurisms from the atheromatous ulcer, according to the circumstances of each case. When we remember that this morbid process is essentially chronic, extending even to thirty years or more in some cases, we will not feel surprise that the diathesis, and still more the cachexia, of the individual will influence the progress of the growth. Consequently we will find that in a person of good constitution and quiet temperate life the atheromatous change takes a very different course from what it assumes in the intemperate and in those whose constitutions are broken down by syphilis. In the one the process is itself slow in its progress, and free from any tendency to undergo degenerative changes; in the other the morbid change is accelerated, and the new products readily undergo degeneration. Just as in one case the systemic changes are slow, and, as it were, long deferred, while in the other the system ages rapidly and degenerative tendencies are marked, so the chronic morbid process is identically affected.

In the first case atheroma may be marked, and yet be compatible with length of days, that is, with proper care; in the latter case some untoward outcome is to be apprehended. In the latter the liability to rupture in the degenerate arteries is great, especially if the heart be fairly strong, while also there is danger of the heart itself failing in such systems. In the non-degenerative atheroma the risk of rupture from the hypertrophied ventricle bursting the vessels is considerable, but if the individual escape this source of danger to life he often attains a very advanced age ere death takes place from cardiac syncope.

This gradual development of atheromatous change in the arteries, with hypertrophy of the left ventricle, leading to danger of apoplexy from rupture of some of the thin-walled vessels of the brain, and at a later period failure of the heart from fatty degeneration having undermined the hypertrophied heart, form a morbid process well marked, and commonly seen in the stalwart families of the north of England. Oppolzer, in his "Vorlesungen," in the chapter "unter dem atheromatösen Processe," gives gout, rheumatism, cancer, alcoholic intemperance, and syphilis as the conditions under which atheroma is most commonly found; but its course in the gouty and rheumatic yeomen, and its course in the broken-down syphilitic drunkards found in town populations, are very different. In the one, the change goes on rather as a chronic scarcely abnormal process; in the other, degenerative decay is almost the rule.

It has been too much the rule hitherto to regard

atheroma as a morbid process which was far beyond the reach of any remedy, curative or palliative. Certainly there is nothing with which we are yet acquainted that can melt the pathological connective tissue out of the arterial walls; the patient cannot be saturated with nitrate of baryta, which, if it would dissolve out the connective tissue, could not undo the changes wrought by its development in the affected vessels. It has been recommended, even in recent works, to use ioduretted frictions to remove the connective tissue out of the valves affected by valvulitis; but this involves, not faith, but credulity. There is no measure which can directly affect the morbid change. But it does not therefore follow that there exist no means by which this change may be affected, and profoundly affected, too, indirectly.

The first matter is to remember the natural history of atheroma, and its connection with persistent high arterial tension; because in lowering that arterial tension lies one most important factor in the treatment. The next is to bear in mind the influence exercised over its progress by any co-existing cachexia or habits. This will suggest the desirability of inducing the drunkard to alter his ways, and of saturating the syphilitic man with mercury and iodide of potassium. In many cases, where mercury alone is too depressant and lowering, it may be combined with iron, as the liquor of the bichloride with the tincture of the muriate of iron,—a combination of incalculable value in anaemic and broken-down syphilitic patients of all ages, enabling the mercurial course to be continued for lengthened periods. All conditions likely to encourage degenerative change in atheromatous vessels must be obviated according to the exigencies of each individual case.

The essential part of the treatment of atheroma is its avoidance as far as possible, and, if its arrest be unattainable, something may be done to delay its progress when it is thoroughly established. This, of course, applies rather to general than to localized atheroma. In order to approach this matter in an intelligent manner, it is necessary to remember the association of a high blood-pressure with the presence of nitrogenized waste in the blood in excess; either from imperfect depuration, or from the unnecessary and excessive consumption of nitrogenized food. The great portion of our urea, uric acid, and the other, the earlier products of nitrogenized waste, are not derived from tissue-disintegration, as is too generally supposed, but from the breaking up of peptones in the liver. By the liver peptones are split up into glycogen and nitrogenized waste. The amount of albuminous matter absolutely required for the daily repair of the tissues is very little. Not only is this known as a scientific fact, but it has been demonstrated in reality by the experience of Abbe Cornaro, and the Miller of Billericay; both instances where high vigor has been maintained for years on a diet containing but small quantities of nitrogen; indeed, a scanty diet altogether. True it is that these men lived, were healthy and hale, on a diet which would be almost starvation to some people: still, their prolonged and vigorous existence proves to a demonstration the small quantities of

nitrogen absolutely required for perfect tissue-repair. The glycogen can just as well be furnished from other than albuminous food. By regulating the diet, then, a decided effect can be produced upon arterial tension. This has been demonstrated by Parkes, of Netley, who found that the blood-pressure fell and the circulation became very calm in soldiers fed upon a strictly non-nitrogenized diet (*Lancet*, May 23 and 30, 1874).

The most important step, then, is to restrict the diet to the absolute needs of the system, to reduce the nitrogen to the lowest minimum compatible with tissue-repair. Every grain of nitrogen above that is unnecessary, and may be distinctly, indeed is, injurious: especially is this the case where there is chronic Bright's disease, and the imperfect action of the kidneys is not supplemented by the dry imperspirable skin so commonly found in such patients. Here the nitrogen must be reduced to the practicable minimum. The high blood-pressure with consequent fulness of the cerebral arteries which follows a highly nitrogenized diet, and gives that sense of energy which we all crave for, is undesirable in persons with commencing atheroma. In them the blood-pressure is high enough at all times, and an increase in it, synchronous with an excess of azotized waste in the blood, produces that cerebral explosiveness known as gouty irascibility, sometimes denominated "pure cursedness." In others of a lymphatic diathesis large quantities of nitrogenized food are indispensable to brain-activity; but then these persons do not suffer from atheroma. The diet should consist of fish, farinaceous foods, vegetables, and, if necessary, fat, in any or all of its forms.

The next step is to remember the form in which waste nitrogenized matter is most permanent, and in which it lingers longest in the system,—viz., as uric acid, free, or as a urate. Potash renders this substance freely soluble, and as urate of potash it readily finds its way out in solution by the various water emunctories of the body. Not only that, but potash, as a muscle-poison, exercises a decided effect upon the circulation, and lowers the blood-pressure, in some persons, most pronouncedly.\* Consequently, in the high blood-pressure of a hypertrophied left ventricle and hypertrophied muscular fibre in the arterioles, potash is most serviceable. In persons with a tendency to atheroma, as shown by the sphygmograph long years ere otherwise recognizable, the constant use of potash is desirable; partly as a solvent of uric acid, partly as a vascular depressant. Its latter action may be aided by combining it with the iodide or bromide of potassium, with colchicum, aconite, or veratrum viride, according to the indications of each case. The bowels, too, should be kept freely open, and the practical utility of a mixture of sulphate of magnesia, potassium-tartrate of soda, in infusion of buchu, can only be estimated by those who have tried it. The idea here is to act upon the bowels, and in doing so to remember the connection of excess of lithates with imperfect action in the liver (Thur-

\* See Botkin (of St. Petersburg), "Des Maladies du Coeur."

chison); the buchu acting pleasantly on the kidneys. This combination is superior to any of the many and excellent mineral waters; especially when well diluted.

Such is the regimen indicated in the early stages of atheroma: it will delay changes that are inaugurated, and check to some extent the progress of the malady. When the latter stages are reached, and heart-failure is threatening, then digitalis or belladonna may be given. But the danger of bursting the degenerate arteries must ever be borne in mind. It is often desirable to join digitalis or squill to the potash in gouty conditions in persons with advanced atheroma and a weak heart, in order to obviate the depressing effects of the potash upon the circulation.

#### VULSELLUM FOR USING WITH THE ECRASEUR.

BY ALBERT H. SMITH, M.D.

**I**N a recent operation in which I removed the cervix uteri for malignant disease, with the galvano-cautery, I was particularly annoyed at my difficulty in passing the needles for transfixing the cervix. The mass of disease not only occupied the cervix itself, but also encroached upon the surrounding vaginal tissue, and passed up some half an inch into the body of the uterus. The patient had a rather small pelvic entrance, with rigid soft tissues. The passage of needles long enough to secure the whole of the mass to be carried through from one side of the pelvic cavity to the other was a matter of extreme difficulty, the constant wounding of the fingers with the points of the needles, passing through a broken-down cancerous tissue, being unavoidable. I used for the purpose needles with a large curve, straight ones, such as ordinarily used, being absolutely impracticable.

Having in use a large tenaculum, which Mr. Kolbe had made me for this particular case, the suggestion presented itself that if that tenaculum had a shoulder upon its curved angle, over which the wire could be hooked and secured, it would save at least the necessity of one needle; and, if four tenacula could be introduced in the same way, thus constructed, and then joined at their extremities, we would have an instrument of great use in such operations.

I accordingly set to work to devise such an instrument, and Mr. Kolbe has produced it for me. The great difficulty has been in getting a simple mechanism by which to unite the tenacula at their extremities, and, at the same time, enable the operator to tighten them up upon the mass after they are applied.

The accompanying cuts represent the instrument as constructed: A is the tenaculum with its shoulder for the reception of the wire; B the instrument complete, having in its grasp a ball to demonstrate its method of operation.

The four tenacula are made at their lower ends with one surface curved, the other two plane and approaching each other at a right angle, so that when

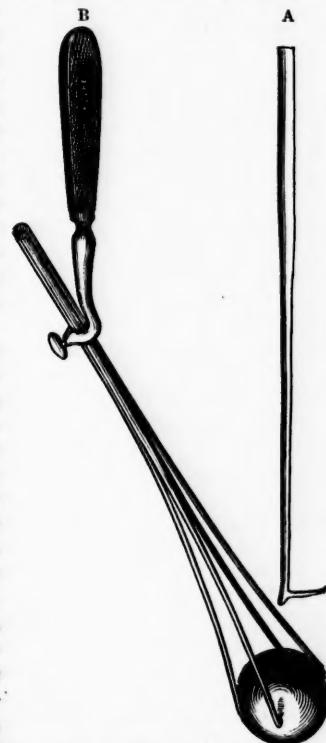
the four are put together after their insertion into the mass to be removed, they will form a cylinder to pass through a tightly-fitting aperture in the handle, and be secured by a screw-clamp. Thus the relation of the four tenacula will be preserved, and the whole will furnish a powerful vulseum for traction.

In applying this instrument the tenacula are to be introduced separately, either in the grasp of the fingers, or, in case of very narrow room for working, as in intra-uterine polypus at the fundus uteri, in the grasp of a strong needle-forceps. The ends are then brought together,—adjusted, and passed through the hole in the handle, which is then slipped up upon them as far as it can be carried. Thus a powerful grasp is secured. The wire is then to be placed in the écraseur, and the handle of the vulseum passed through the loop, which may then be carried on until it is passed over the shoulders of the tenacula and retained in position, being then ready for tightening. After the wire has made a sufficient groove for itself in the tissues to retain it in position, if the operator think it more convenient to dispense with the vulseum it may easily be withdrawn.

I imagine any one who has attempted the removal of large polypi from the cavity of the uterus, even when well pedunculated, and much more when at all sessile in their character, has experienced the great difficulty in having the loop of the écraseur sufficiently secured upon one portion of the mass while he draws it around upon the opposite side for tightening it up, it being impossible to introduce more than one hand into the cavity at once. I think this instrument will be found to obviate the difficulty very greatly.

The mechanism for securing the tenacula seems to be defective; but if the instrument proves useful there are, no doubt, many with mechanical genius who can improve upon it.

A BUTCHER named Lerch, residing at Linden, near Hanover, has been condemned to two years' imprisonment for gross negligence. His offence was the selling of a quantity of trichinised meat, which caused the illness of about four hundred persons, and the death of more than fifty.



## A COMBINATION OF THE CUTANEOUS AND MUSCULO-CUTANEOUS PLANS OF AMPUTATION.

BY D. HAYES AGNEW, M.D.,

Professor of Surgery in the University of Pennsylvania.

I HAVE recently employed a method of amputation which appears to me to possess advantages worthy of notice. In raising the integument from the deep fascia, after the old plan of the skin-flap, whether circular or oval, a large number of its vessels are necessarily cut, which tends to jeopardize the vitality of the flap. Again, in this operation, the muscles being divided circularly, it is impossible to secure an accurate contact of the surfaces; irregular spaces or cavities between the muscles and flap will remain, in which the discharges collect and interfere with the healing.

If the musculo-cutaneous method be adopted, the skin, from its greater elasticity, retracting more than the muscles, leaves the latter hanging below, thus requiring that they be either abridged with the knife, or tucked and crowded in, so that the stump can be closed. The plan which obviates all these objections is the one to which I refer, and consists in making two oval cuts through the skin, down to the deep fascia, on opposite sides of the limb, raising the integument only a short distance,—say three-quarters of an inch,—and then applying the knife at the junction of the skin-flap and the deep fascia, and cutting the muscles obliquely back to the bone, or bones, as the case may be; or, if transfixation is preferred, thrust the knife through at the angles of the tegumentary wound, and cut from within out. I find, however, the former the more convenient plan. The adjustment between the divided surfaces will be complete.

In the few cases in which I have performed the operation the union has been quick, and the form of the stump perfect. This method is adapted to any part of the fore-arm, arm, or thigh, and even the leg, as its details can be made practical on the posterior part of this portion of the lower extremity.

## NOTES OF HOSPITAL PRACTICE.

### EPISCOPAL HOSPITAL.

SERVICE OF DR. JOHN ASHURST.

Reported by G. WINFIELD ZEIGLER, M.D., Resident Physician.

*RUPTURE OF THE INTESTINES, FOLLOWED BY PERITONITIS, AND DEATH IN TWENTY-FOUR HOURS, WITHOUT SIGNS OF EXTERNAL VIOLENCE.*

JOHN G., æt. 49, spinner by occupation, was admitted into the surgical ward of the Episcopal Hospital on the evening of July 18, 1875, with the following history and symptoms:

At about 9 A.M. of the same day, he was knocked down and severely kicked on the abdomen by a man with whom he was quarrelling while in a state of intoxication. About twelve hours after the injury he was received into the hospital. I found him lying upon a stretcher, on his right side, with his thighs flexed upon his abdomen and his head flexed upon his neck, crying, and manifesting evidence of most excruciating pain. After his transference to a bed, neither Dr. William H.

Hawkes nor myself could detect any external marks of violence upon his person, excepting a small contusion upon the point of his chin.

His abdomen was very tympanitic and extremely painful to the touch, particularly on the left side. On auscultation, I could detect a gurgling sound on the left side over a line corresponding to that of the descending colon. His pulse was weak and rapid; tongue coated; respirations hurried and labored; skin clammy, and pupils rather dilated. Constant vomiting and severe retching were marked symptoms. He had retention of urine, and stated that he had not evacuated his bladder since early in the morning. There was extended dulness on percussion over the supra-pubic region, and the penis and urethral canal were so firmly contracted as not to admit of the passage of the smallest-sized catheter which I could obtain. The patient, during this time, and even up to the time of death, was in full consciousness.

The treatment when he first came in consisted in the administration of fifteen minims of laudanum; which was immediately rejected by the stomach. I next resorted to the hypodermic injection of one-fourth of a grain of morphia, which dose was repeated in fifteen minutes. A thin flaxseed-meal poultice was placed on the abdomen, and a hot mustard poultice over the epigastric region; hot fomentations were constantly applied over the hypogastric region. About an hour after this plan of treatment had been in operation, the patient began to quiet down, and remarked that he felt much better.

He complained of great thirst; milk and lime-water seemed to allay somewhat the irritability of his stomach. During the night he took about a pint of the mixture. At 11 o'clock P.M., ten minims of laudanum were ordered to be given every two hours until morning. At 2 o'clock the next morning his condition was about the same. I again endeavored to introduce a catheter, but with nearly the same result as before. No sooner, however, had I ceased my efforts than he passed spontaneously fully  $\text{f} \frac{3}{4} \text{xii}$  of urine. At 6 A.M. he complained of increased pain in the lower part of the abdomen. At 8 o'clock the vomiting had increased, and ten grains of subnitrate of bismuth were given. At 10 o'clock his condition was nearly the same, except that the abdominal pain was relieved somewhat. About half an hour afterwards his death occurred by sudden collapse, preceded by stercoraceous vomiting.

The post-mortem, which was made eight hours after death, by Dr. Maury, the coroner's physician, showed that the body was free from external marks of violence, except the small contusion which was observed upon his chin during life. The abdomen was distended and tympanitic; and there was a discharge of stercoraceous matter from the mouth. The peritoneal cavity was filled with an offensive, thin, yellow pus, mixed with a considerable quantity of fecal matter. The intestines were in a high state of congestion; and there was well-marked and extensive peritonitis. By carefully examining the intestines there was discovered in the ileum a small rupture about one-third of an inch in length, through which the contents of the bowels were escaping. The stomach was natural, and the lungs and heart were normal, except that there was some thickening of the tricuspid valves. The liver was slightly enlarged, and of a beautiful pale-yellow color,—a perfect specimen of cirrhosis of that organ. The skull was uninjured, and the brain-substance normal.

SIR WILLIAM WILDE, of Dublin, has been elected an honorary member of the Royal Academy of Science at Upsala, and a corresponding member of the Geographical Society, Berlin.

## TRANSLATIONS.

COMMUNICATION BETWEEN THE BLOOD-VESSELS AND THE LYMPHATIC SYSTEM (Tarchanoff: *Centralblatt für Chirurgie*, No. 26, 1875; from *Gaz. Méd.*).—Tarchanoff, after making numerous investigations, has reached conclusions opposed to those of Arnold relative to the existence of a system of canals through which the blood- and lymphatic vessels inter-communicate. He has repeated the experiments of Arnold by first ligating the crural vein of the frog, and then injecting a solution of gelatine, colored with Berlin blue, into the aorta under a pressure of eighty to one hundred millimetres of mercury, and then observing what takes place in the vessels of the membranes between the toes. On the second or third day after ligation the blood-vessels are found dilated and strongly distended with blood; and their walls are at some points ruptured, and the orifices thus caused surrounded by extravasated blood. The matter which is injected makes its exit at the ruptured points, insinuates itself among the blood-corpuscles which are outside of the vessels, and forms a network of communicating stellate figures. Tarchanoff has never observed that the injected materials enter pigment-cells as described by Arnold, nor that there is any direct communication between the two systems of vessels, for the only communication between the matters injected occurs in the meshes of the connective tissue.

If the formation of extravasations of blood is prevented by washing out the blood-vessels with a solution of common salt after the injection, no determinate figures are met with, but only diffused coloration.

The system of canals for the conveyance of the fluids of the body which have been supposed to exist is, then, according to the views of this experimenter, only a series of artificial meshes due to the entrance of the colored injection between the blood-corpuscles.

W. A.

ELECTRO-PUNCTURE OF THE HEART (A. Hénocque: *Centralblatt für Chirurgie*, No. 26, 1875; from *Gaz. Hebdo.*).—After referring to the experiments made upon dogs by Vulpian, Hénocque alludes to the use of faradization of the heart with a view of arousing patients from the syncope of chloroform. Vulpian, by faradization of the heart of dogs, produced a complete cessation of action in that organ. The currents which were employed in these researches, both intermittent and continuous, were of but little intensity, and he concludes that with our present knowledge electro-puncture is too dangerous to be thus employed.

W. A.

BOULIMIA.—Dr. Lubelski reports (*Bull. Gén. de Thérap.*, No. 12, 1875) the case of a woman of 26, who was attacked during the earlier months of married life with certain nervous symptoms, at first supposed to be connected with pregnancy, the menses not having occurred for some time.

At the same time her appetite became insatiable. She ate from twenty to twenty-five pounds of meat per diem. The urine showed neither albumen nor sugar. The patient increased in size rapidly; after a few months she could no longer walk, and weighed about three hundred pounds. A singular toleration for toxic substances was shown. Treatment proved of no avail.

X.

THE INDICATIONS FOR TRANSFUSION.—A discussion on this subject took place at a recent meeting of the Société des Hôpitaux. M. Moutard Martin maintained that in many cases in which cures had been reported after transfusion, the same result would probably have taken place had the operation not been performed. To this

M. Féréol earnestly objected, and added that of the fatal cases reported by himself, life might have been saved in several had transfusion been performed earlier. M. Martin thought that the indications for transfusion should be distinctly stated. M. Buquoy stated that it was generally agreed that the first indication was anæmia from hemorrhage, and that transfusion was contra-indicated when the existence of an organic lesion had brought about constitutional anæmia. Intermediate cases, however, existed where the operation was worthy of trial.

SUDDEN DEATH FROM SYNCOPIC SUPERVENING DURING AN OPERATION FOR THORACENTESIS (*Le Mouvement Méd.*, Nos. 27 and 28, 1875).—Dr. Ernest Besnier reports the following case. A stout woman, 43 years of age, was seized with severe pain at the base of the thorax on the right side, accompanied by fever, without expectoration. The appearance indicated the presence of a grave affection. On physical examination, some days later, signs of pleuritic effusion in the right side were observed, dulness, ægophony, etc. Blisters, digitalis, and diuretics were prescribed, and the patient became better. A few days after, she began to get worse again. Further examination showed signs of abundant acute pleuritic effusion, marked but not excessive dyspnoea, respiratory murmur normal everywhere except at the base, where there were fine subcrepitant rhonchi. The general condition was bad; pulse too. The only symptoms which distinguished the case from an every-day one of pleuritic effusion were the severe pain and general aspect of the patient. Twelve days after the first examination, it was decided to perform thoracentesis. Everything being prepared, a trocar was introduced, and gave exit to a horribly fetid, sainous pus. Some twelve ounces of fluid had passed into the receiving vessel, when attention was suddenly called to the patient, who remained sitting bolt upright, with the eyes open, perfectly pale, and without making the least effort at respiration or displaying any pulsation at the wrist or heart. Every means was used to restore animation, but in vain; the patient was dead. M. Besnier discusses the cause of sudden death in this and similar cases at some length, and concludes that a manifest irritation is produced during thoracentesis in a region which is hyperæsthetic, and that this irritation in cases of exceptional debility may be the starting-point of arrest of the heart's action, an arrest which may become mortal either on account of cardiac disease or debility. M. Besnier alludes to other cases of gangrenous pleurisy, which he considers quite different from, as well as more severe than, the ordinary variety.

X.

CHRONIC AORTITIS.—The following is an abstract of the memoir on this subject read before the Académie des Sciences at a recent meeting by Dr. M. P. Jousset:

1. Chronic aortitis is an affection characterized anatomically by chronic inflammation of the tunics of the aorta. The principal lesions are atheroma, milky and crotaceous patches, thickening and loss of elasticity of the walls, and, finally, dilatation of the artery. The inflammatory character of these lesions has been demonstrated by microscopic examination. The endarterial inflammation may be propagated to the endocardium, and vice versa. The lesion in this case constitutes a cardio-aortitis. Concomitant lesions frequently observed are premature ossification of the peripheral arteries and sclerosis of the kidneys.

2. This affection presents itself in two forms: a painful angina pectoris, and a painless variety. The latter alone is discussed by M. Jousset.

3. Chronic aortitis is a common affection. It is continually mistaken for or confounded with an affection of the heart, or rather with an interstitial nephritis.

4. Chronic aortitis sometimes follows acute aortitis. The causes which favor the origin of the latter, alcohol, tobacco, coffee and tea, etc., are the same in both cases. All the patients observed by M. Jousset were gouty or had hemorrhoids, and were all above thirty-five years of age.

5. The principal symptoms are habitual dyspnoea, with occasional attacks of suffocation. The more severe attacks are similar to those of cardiac dyspnoea. The pulse is quickened, becomes small, and may even disappear. Cold sweat, and sometimes syncope, supervene. During the attack the respiration is convulsive and prolonged. Insomnia, loss of strength, and anaemia are other symptoms of aortitis; they lead to cachexia characterized by edema, albuminous urine, and sub-delirium.

Death results from asphyxia, syncope, or uræmic accidents.

6. The physical signs are various modifications of the aortic sounds, the formation of a *plateau* in the sphygmographic trace, and increase of aortic percusion-dulness.—*Bull. Gén. de Théráp.*, No. 12, 1875.

X.

**NEW METHOD OF TREATMENT OF CEREBRAL RHEUMATISM BY CHLORAL HYDRATE.**—M. E. Bouchut remarks on this subject as follows: Cerebral or meningeal rheumatism is a grave form of this affection. Examination of the membranes of the brain reveals considerable venous stasis, with opaline infiltrations of the pia mater caused by numerous leucocytes. Ophthalmoscopic examination shows serous infiltration of the papilla and of the neighboring retina, with dilatation of the retinal veins, which represent similar alterations of the pia mater and brain. Cerebral rheumatism is announced by more or less violent delirium, terminating in coma, and by a sometimes very rapid asphyxia which may cause death in a few hours. In three cases of this kind a cure has been obtained by the aid of chloral hydrate, taken by the mouth, to the extent of forty or eighty grains in one or two doses closely repeated, so as to obtain an immediate relief from the agitation shown by the patient.—*Bull. Gén. de Théráp.*, No. 12, 1875.

**IRRIGATION OF BOTH PNEUMOGASTRIC NERVES IN MAN** (L. v. Thanhoff: *Centralblatt für die Med. Wissenschaften*, 1875, No. 25).—On the 14th and 15th of April of the present year, a pupil of Von Thanhoff permitted experiments to be made upon him, and compression of the right vagus was several times made either by the experimenter or by the patient himself. The pressure was applied by the index-finger of the left side at the inner edge of the sterno-cleido-mastoid muscle, on a line with the thyroid cartilage. Pressure properly applied over the nerve was recognized by the line made by the pencil of a sphygmograph on the right radial artery, and by the patient himself by the occurrence of a prickling sensation to which it gave rise.

Twelve such experiments, in which the pulse-lines were almost identical, showed that the results obtained from experiments on beasts are accurate, and that the pulse and action of the heart became slower, and that the heart indeed can be brought to a state of rest. The truth of the assertion of Ludwig, Hoffa, and others, that irritation of the vagus in dogs causes a diminution of the blood-pressure, was also established. In the experiments in which compression of both nerves was made, the sphygmograph was fastened upon the right arm, while the pressure was made by the thumb and forefinger of the left hand. In some of the experiments the pressure was probably imperfectly exercised, for the pulse-lines were not remarkable, but in the last the line was unique, and the experimenter was much astonished to find his pupil become suddenly speechless while

keeping up a spasmody pressure upon the pneumogastric nerves. He continued staring with glassy eyes, giving no reply to the inquiries which were made, and it required considerable force to loosen the grasp of his hand upon his bent neck, and, when this was done, some time elapsed before there was a complete return of consciousness. He was at first unable to stand, and when taken into the open air staggered, and said that his head felt very heavy, and as if bound with an iron ring. This sensation of pressure was also felt in the whole body, and especially about the heart, and he had a chill, followed by febrile symptoms.

He retired early, slept soundly, and awoke the next morning with a severe headache, which, however, soon passed off, leaving him once more fit for work, but not at all disposed to renew the experiment, which had given such alarming results.

W. A.

**TETANUS CURED BY CHLORAL** (L. Papiland: *Centralblatt für Chirurgie*, No. 26, 1875; from *Gaz. Méd.*).—A railroad hand, aged 20 years, received a severe contusion of the last phalanx of one of his fingers, and in a short time was seized with a rigidity of all his muscular system, but which was especially noticeable in the muscles of mastication, to which attacks of convulsions were soon added. A solution of chloral of the strength of eight to two hundred was given in tablespoonful doses every hour until the cessation of the spasmody seizures.

The patient took altogether seventy-two grammes of chloral, and at the expiration of twenty-two days had entirely recovered, with the exception of a certain amount of rigidity of the left arm. P. concludes that the internal use of the drug will suffice in every case, and rejects the proposition of injecting it into the veins.

W. A.

## THERAPEUTIC NOTES.

**TREATMENT OF ZOSTER BY INDUCED CURRENTS.**—Dr. Fanque recommends the use of induced currents in the treatment of zoster, which is now generally admitted to be of nervous origin.

He recommends that the positive pole be placed upon the vertebral column while the negative pole is placed upon the affected portions of skin.

**EMMENAGOGUE PILLS.**—Take aloes,  $1\frac{1}{2}$  gr.; rue, savin, saffron, of each  $\frac{1}{4}$  gr. To make one pill.

**SOLUTION OF SALICYLIC ACID.**—As this substance is somewhat insoluble in water, only one part being dissolved in three hundred of the latter, the following formula is useful when a stronger solution may be needed:

Salicylic acid, one part;  
Phosphate of sodium, three parts;  
Water, one hundred parts.

**REDUCTION OF INDOLENT GLANDULAR SWELLINGS.**—A writer in the *Irish Hospital Gazette* advises the hypodermic injection of seven to ten minims of the dilute acetic acid of the British Pharmacopœia.

Indolent enlargements of the cervical glands which disappear slowly or not at all under the use of internal treatment and painting with iodine, are cured in a week or so by this method. Occasionally the effect is to cause atrophy of the enlarged gland, but more frequently suppuration is brought on, lasting for a week or ten days, and ending in a cure.

PHILADELPHIA  
**MEDICAL TIMES.**  
 A WEEKLY JOURNAL OF  
 MEDICAL AND SURGICAL SCIENCE.

The Philadelphia Medical Times is an independent journal, devoted to no ends or interests whatever but those common to all who cultivate the science of medicine. Its columns are open to all those who wish to express their views on any subject coming within its legitimate sphere.

We invite contributions, reports of cases, notes and queries, medical news, and whatever may tend to increase the value of our pages.

All communications must bear the name of the sender (whether the name is to be published or not), and should be addressed to Editor Philadelphia Medical Times, care of the Publishers.

PUBLISHED EVERY SATURDAY BY  
 J. B. LIPPINCOTT & CO.,  
 715 and 717 Market St., Philadelphia, and 25 Bond St., New York.

SATURDAY, AUGUST 7, 1875.

EDITORIAL.

THE UNIVERSITY OF MICHIGAN.

THE medical faculty of this institution are placed in a very delicate position by the fact that some of them are required to aid in the preparation of practitioners of homeopathy. Prof. Sager, in a plain, manly letter, has already tendered his resignation as Dean of the medical faculty. At this distance we are, of course, unable to know exactly how the fermentation is working, but Prof. Sager states that he has been admonished officially and through the medical press "that for the liberty of expressing publicly views at variance with those of the honorable Board of Regents, yet in vindication only of the purity and prosperity of the old school in the Medical Department, I have exposed myself to their displeasure, and rendered myself obnoxious to their censure."

Prof. Sager may be sure of one thing,—that is, that he has the sympathy of his professional brethren, and that sooner or later the school which he has labored so steadfastly to support will reap the harvest of the present sowing. Such is the reward of twenty-five years' labor in medical teaching. Dr. Sager's letter leaves it doubtful whether he intends withdrawing absolutely from the faculty or not; but probably he contemplates so doing. During the present state of dissatisfaction it would hardly appear to be an auspicious time to make any changes in the requirements of students; but at a recent meeting of the Michigan State Medical Society Regent Rynd said that the policy of the regents

was to establish within two years at farthest a full three years' graded course of study and lectures obligatory upon all students graduating in the medical department, and that the requirements for admission into this department would at the same time be made equal to those for admission into the scientific department.

WE have to thank an unknown correspondent for a marked copy of the *Buffalo Courier*, giving an account of the "Buffalo Free Medical and Surgical Dispensing Association." The account is preceded by a large sensation heading, and in it the names of the various specialists, along with their particular callings, are displayed in a manner worthy of Helmbold. Perhaps there never was a more palpable instance of the method in which the profession is as it were devouring itself, or, to speak more correctly, of the injury being wrought by the craze of individuals to get experience and make reputation as specialists. We are told with great satisfaction, by the writer of the account, that the free labor of the Association has enabled the city authorities to reduce the aggregate salaries of district physicians from \$13,000 to \$3000. Is it less a violation of the spirit of the Code of Ethics to steal from a brother practitioner a patient by underhanded means, than to rob him of his salary by doing the same or equivalent work for nothing? If this thing be allowed, it seems to us that the profession will fall below the level of an honest business; since even in commercial circles it is hardly thought honorable to destroy a weaker competitor by selling goods for nothing.

A MIDWIFE—Elizabeth Marsden—is now undergoing penal imprisonment in England for having conveyed puerperal fever to her patients with fatal result. It appears that she was warned that she was spreading the disease, but refused to pay any heed. The London *Lancet* affirms that the general medical profession is much divided in opinion as to whether she "is a martyr or a justly-punished criminal."

RED TAPE AND A STATE RELIGION.—According to the correspondent of the *Pacific Medical Journal*, a woman was recently refused by the Berlin authorities permission to follow the avocation of a prostitute because she had no certificate of confirmation.

ACCORDING to the *Wiener Medizinische Presse*, July 11, cholera at the latest advices (June 17) was epidemic in Damascus, Hamah, and Aleppo.

## CORRESPONDENCE.

## TRANSFUSION.

UNIVERSITY OF STRASBURG, June 28, 1875.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—The importance of the subject of transfusion, no less than the frequency with which this operation has been performed of late, and the admirable researches, critical and experimental, which have recently appeared upon the subject, place us in a position, I think, to draw certain conclusions, at least on the physiological side of the question. To give the results of some of these researches is the object of the present communication.

The question which I have in view may be formulated according to the following scheme: Either the blood of one animal is injected into the veins of another of the same species, or it is injected into the veins of an individual belonging to another species. In either case the following conditions are to be taken into consideration.

1. The blood-volume of the animal receiving the injection.

2. The amount of blood injected.

3. The rapidity with which the injection is made.

Investigation has shown that whether the injected blood has or has not been previously defibrinated is a matter of indifference; as is also the fact of the injection having been made into an artery or vein.

The question of greatest importance to the practical physician is whether or not the blood of an animal of a different species may or may not be injected with impunity or advantage. This operation has been so frequently performed of late that at first sight the query would seem hardly worth answering. The results of physiological experiment stand, however, as I shall show, in such decided opposition to the results of practitioners that this must be regarded as the stand-point upon which the entire question turns.

Müller injected the defibrinated blood of one dog into the vascular system of another, measuring the pressure of the circulation meanwhile, by the aid of a manometer placed in the carotid of the recipient.

He observed that during, and for a short time after, the injection, pressure increased in the arterial system, decreasing again, however, in the course of a few minutes to the previous pressure or lower. This may be repeatedly observed in the same animal.

When we increase the volume of blood in an animal above the normal amount, we are not in a position to increase simultaneously the pressure in the arteries; for, as the result of an accommodation as yet not fully understood, the vascular system conforms itself to the increased volume of fluid in so perfect a manner that the newly introduced blood appears after a very short time to be entirely disposed of. The vascular system can, however, only accommodate itself gradually to the increase or diminution of its volume. In a short time after an abstraction of blood which has not been

too excessive, the pressure, which for a time had diminished in the arterial system, is observed again to rise to the point maintained before the blood-letting. Similar researches have been conducted by Panum and Ponfick with particular regard to the subject of transfusion.

And here the important question presents itself, What becomes of the blood thus introduced? Like Müller, these latter investigators give a negative answer to the query; saying, however, that if the transfusion is made with the blood of an animal of the same species, and in a not too rough fashion, the infused blood does not appear in the form of serous or bloody extravasations in the connective tissue or serous membranes.

Among the changes observable in a dog who has been thus injected, are reddening and warmth of the mucous membrane.

When an injection with defibrinated blood has been so managed as to introduce the fluid into the vascular system very hastily, various threatening symptoms appear, and if the injection is too hurried, it fills the right ventricle, and causes extreme tension of the vascular system. Following this, various extravasations in the region of the right ventricle may occur. Extensive extravasation may also take place into the tissue of the lung. Similarly punctate effusions of blood are found in the pericardium and pleura and in the mediastinum, as well as in the intra-vascular structures, the brain and its membranes.

These appearances, observed when the blood is forcibly injected with a syringe, may also be noticed after direct transfusion,—that is, when blood from an artery of one animal is made to flow directly into the vein of another.

If one, however, is careful to regulate the introduction of the blood, the effect is in no way different from that produced by transfusion with defibrinated blood of the same animal. Since, however, the latter method is more easily carried out, and since the amount of the injected blood may be certainly measured and the pressure under which the transfusion is performed can be accurately regulated, which latter cannot be done in direct transfusion, the indirect method is to be preferred.

While the injection into the veins of a healthy animal of blood taken from another individual of the same species exercises little or no influence upon the former, it is far different when transfusion is performed in an anaemic animal. If, for instance, an animal nearly dying from excessive loss of blood is injected with the blood of another individual of the species, the former will be preserved alive with not perceptibly disturbed health. An experiment conducted by Dr. Panum, which illustrates this point, may be here cited.

A half-grown dog was deprived of 200 centimetres of blood, and then had injected 128 centimetres of defibrinated blood from another dog. The defibrinated blood had been preserved in a jar surrounded by ice for twenty-four hours, and, just before the transfusion, was warmed up to a temperature of 36° centigrade (97° Fahr.). After the blood-letting the dog operated upon

became very weak, but recovered entirely after the transfusion, and was as well as ever, no symptoms of any kind being observed.

On the following day 160 centimetres of blood were again taken from this animal, and 150 centimetres of defibrinated blood from another dog were injected. In spite of the fact that the amount of blood transfused into this dog equalled one-third its entire estimated blood-volume, the body-weight remained undiminished. The dog weighed previous to the first transfusion, before a meal, 9920 grammes, afterwards 9950 grammes. On the day of the second transfusion the animal weighed, after eating, 10,450 grammes; on the following day 10,520 grammes before, and 11,200 grammes after, eating; and eighteen days later he weighed, after eating, 12,430 grammes.

This dog was subsequently caused to lose a large portion of his blood in the course of four hours, new defibrinated blood from another dog being simultaneously introduced, so that while 542.5 centimetres of blood were lost, 592 centimetres of defibrinated blood were injected.

If the original blood-volume is reckoned here as one-third of the body-weight, this dog would have had 634 centimetres of blood before the transfusion, so that 93 per cent. of the original blood-volume was exchanged for an equal amount of the blood of another individual of the same species. This dog, which, before the experiment, had weighed 12,430 grammes, weighed the morning after, subsequent to the daily meal, 14,450 grms.

Many other researches prove that the blood-corpuscles of one individual may be so transplanted in another that they continue to act normally, that is, to absorb oxygen constantly from the lungs, and to carry it to the tissues. Here then is the indication for the medicinal use of transfusion. Transfusion, then, is only indicated when a lack of active, working blood-corpuscles is made out. Researches in this particular direction prove that we can neither by this means provide the organism with nourishing material, nor can we by combining blood-letting and the infusion of new blood free the organism from harmful material, which continues, nevertheless, to grow and become reproduced in it.

All this is of value concerning transfusion with the blood of animals of the same species. In order to give, in the shortest possible space, the appearances showing themselves when blood from another species is transfused, I subjoin the following experiment of Ponfick.

A dog had introduced into the jugular vein from the carotid of another animal, during forty-five seconds, 12 per mille of blood of the body-weight of the dog. The following symptoms were observed. During the reception of the blood there was moderate dyspnoea, and with this extreme nausea, but no vomiting, and free defecation. The extremities, particularly the fore-feet, seemed paralyzed. After an hour, bloody-red coloration of conjunctivæ of both eyes; darker in the left. After the animal had somewhat recovered, he was

untied, and observed with the necessary interruptions. There was some red coloration of the urine, fifty-five hours after the operation. During the first day the dog seemed to be doing well, but suddenly collapsed at the end of twenty-eight hours, and appeared moribund. The respiratory movements were superficial, weak, and infrequent. Reflex activity much diminished. The cornea was sometimes quite insensible, at others somewhat sensitive. The pupils were widely dilated. The animal lay powerless on its side; only occasionally was its deathly quiet interrupted by a convulsive movement or a groan. There were, in addition, disturbances of perspiration and circulation, and the dog died at the end of eighty hours from the operation.

Post-mortem examination showed severe renal disease, hemorrhagic effusions in the fundus of the stomach, some pleuritic adhesions, no deposits in the lungs, cornea swollen, and, in addition, hypopyon and keratitis.

Other experiments have resulted similarly, whether the blood of the other animal has been transfused directly or indirectly, with or without previous defibrillation. Experiment shows that the serum of one animal dissolves the blood-corpuscles of other species.

From all these experiments it may be concluded that transfusion is indicated only when there are too few actively-working blood-corpuscles present; that transfusion can under no circumstances whatever bring about a cure in constitutional and infectious diseases. In all cases of transfusion among men, human blood should alone be used.

The most valuable contributions to the literature of the subject are the following: "Experimental Contributions to Our Knowledge of Transfusion," Ponfick, *Virchow*, Bd. 62, s. 273; and "Observations on the Transfusion Question," Panum, *Virchow*, Bd. 63, s. 1. Valuable contributions from a physiological stand-point will be found in an abstract of the work done in the Leipsic physiological laboratory under Prof. Ludwig, published in the *Berichte der Sächsischen Academie* for last year.

DR. E. TIEGEL.

NEW YORK, July 23, 1875.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

THE Woman's Hospital is now closed, according to custom, until the 1st of September; but just before this took place Dr. Thomas had a number of exceedingly interesting cases there. A week after the operation, we had the opportunity of seeing the patient in whom he amputated the cervix uteri for cauliflower excrescence, with the galvano-cautery, as described in a former letter. She had not had the slightest bad symptom, was in capital condition, and will soon be discharged, entirely and permanently cured of the affection, in all probability, or at least as perfectly protected against any return of it as it was possible to make her. The slight burn of the mucous membrane of the labia and vagina by the heat radiated from the

platinum wire was now quite healed, and the parts were altogether normal in appearance.

Among the other cases operated upon during the last few weeks were the following :

*Rupture of the perineum through the sphincter ani.*—Sims's operation was performed. The mucous membrane was denuded with scissors, first directly over the torn sphincter muscle, and then forward on both sides, over all the surface to be united. The interest of the operation centred in the first two sutures, which were parallel to each other, and passed deep in the tissues entirely around the anus, thus forming an artificial temporary sphincter, or, more correctly, a splint, as Dr. Thomas calls it. It is impossible to close up the anus completely in this way (as some might anticipate), on account of the surface not being denuded all around. The third suture comprehended the tips of the sphincter ani muscle, but was twisted in front of the anus. Four other sutures were then put in anterior to this, as in ordinary cases when the sphincter is not involved. Simple silver wire was used for all the sutures, without any quills, clamps, beads, or other of the contrivances still generally employed in such cases by English gynaecological surgeons.

*Ruptured perineum and laceration of the cervix uteri.*—Dr. Emmet was the first to call the attention of the profession to the train of evils resulting from lacerations of the cervix, which are so frequent, and so often pass unnoticed, during parturition ; and in this case Dr. Thomas performed the operation which he devised for its cure. The patient having been placed on the left side and the Sims speculum introduced, the flaps were separated, and the surfaces which had been lacerated were freely denuded from one lip to the other ; a broad undenuded tract, however, being left in the centre, from before backward, which was to form the continuation of the uterine canal to the os. When the hemorrhage is profuse it can be controlled to a great extent by the uterine tourniquet, which is slipped over the cervix and tightened sufficiently high up not to interfere with the operation.

The introduction of the sutures is difficult in these cases, from the great density of the diseased uterine tissue and the mobility of the organ. The first one was passed through the anterior flap, close along the bottom of the fissure, and withdrawn just at the edge of the undenuded strip left to form the canal. It entered again at a similar point in the opposite lip, and made its exit then on the vaginal surface of the posterior flap corresponding with the first point of entrance. Three sutures were inserted on each side, especial care being taken in passing the last one, through the crown of the cervix, with the view of accurately approximating the edges at the os, and along the vaginal surface from this point.

The same plan was followed for securing the uterus as in the operations for vesico-vaginal fistula, ruptured perineum, etc. The needle was armed with a short silk loop, and, after its introduction, the silver wire attached and drawn through to take its place. The ends

of the wire were then seized by a pair of forceps and twisted over the "shield," and finally cut off at half an inch in length and bent over flat, so as to lie close to the vaginal surface. The rupture of the perineum in this case did not involve the sphincter ani, and in the operation for its restoration Dr. Thomas adopted the novel procedure of taking in a portion of the posterior wall of the vagina, which was abnormally redundant, to form part of the perineal body.

*Vesico-vaginal fistula.*—The patient was a woman of large frame, and a perfect mountain of obesity, weighing probably between two hundred and three hundred pounds. The loss of tissue had been enormous, and, though Dr. Thomas had already performed four operations in the case, a very large fistula still remained. The first had been for the purpose of forming a new urethra (that canal having been quite destroyed), and was entirely successful, though, of course, the urethra would be of no use until the fistula was closed up. The other three operations were undertaken for this purpose, but the opening was so very extensive that no attempt had been made to close it all, except at the last one. This had proved unsuccessful, though the fistula was now only one-half the size it had been formerly.

Dr. Thomas considered this as difficult a case as he had ever seen, and thought it doubtful whether a perfect cure could ever be made. Still, he was willing to make one more attempt, and on the present occasion he was desirous of trying the effect of a "new dodge" which had occurred to him in thinking over the case. This was to secure leaden clamps, by means of silver wire, on each side of the fistula before proceeding to the regular operation for its closure. The failure to unite before had been caused by the huge size of the woman, which produced such tension on the sutures that they always tore out, and the design of the clamps was to remove this from them, as far as possible.

The clamps having been adjusted, after considerable difficulty, on both sides of the fistula, not far from the edges, Dr. Thomas proceeded to denude the surfaces to be united. As before stated, the destruction of tissue had been enormous in this case, the whole base of the bladder having sloughed away, and the cervix uteri having been torn in addition. The capacity of the bladder now was probably not half that of the normal viscus.

The hemorrhage is usually very great in operating in such cases, particularly where it is necessary to cut into the mucous membrane of the bladder, as in the present instance, and Dr. Thomas is of the opinion that it was controlled to a great extent here by the clamps previously secured. Even fatal hemorrhage has been known to occur sometimes in these cases. The operation was tedious on account of the almost insurmountable difficulty of getting at the parts in such a subject, and at least a dozen sutures—possibly as many as fifteen—were necessary on account of the still very large size of the fistula.

The first two were taken in the tissue of the lacerated cervix. Dr. Thomas thought the upper part of the fistula might now unite, but was very skeptical about

the lower portion. Perhaps, however, he said, still another operation in the fall might effectually and permanently close it.

Dr. Emmet, whose experience in these cases is extremely large, had examined the patient and had expressed the opinion that this fistula was probably incurable. If this is so, it will be only the second case of the kind that Dr. Thomas has met with which has baffled his skill.

The report of a case of *atresia vaginae* I shall be obliged to reserve for another letter.

From the weekly reports of the Registrar of Vital Statistics we learn that there were 890 deaths in this city during the week ending Saturday, July 17, and only 454 births, which is certainly not a very gratifying exhibit; though this is the season of the year when the rate of mortality always reaches its maximum.

Still, the death-rate in New York is almost always greater than that of most other large cities in the summer; and this is undoubtedly due to the great fatality of gastro-intestinal diseases among the children of the swarming tenement population of the city. In the week ending July 10, when the number of deaths reached 743, the death-rate here was equal to 37.97 in the 1000 inhabitants yearly; while Philadelphia reported its rate at 27.64; Washington, 27.50; Boston, 20.10; Baltimore, 30.46; Chicago, 30.83; Cincinnati, 30; and Nashville, 32 per 1000. In Richmond, however, it ran up to 44.82. For the week ending July 3, twenty-one large cities of Great Britain reported an average equal to 22 per 1000 yearly death-rate, and Paris reported its rate at 22.09. In New York during the same week the number of deaths was 568, representing an average rate of 27.86; which was less than that of Philadelphia (32.94), Washington (41.25), Baltimore (34.95), or Boston (30.27) for the same. In speaking of the increased mortality here during the past week, the Registrar says it occurred wholly in children under five years of age; 601 of the 890 being of such young children. There were fewer deaths in that portion of the city population which is five years of age and upward than in the average of the year. Of the 359 deaths attributed to diarrhoeal disorders, only seventeen are of persons over five years old. The death-rate in that portion of the whole population which is over five was equal to 16.07 per 1000 annually, while in children under five it was 249.86 per 1000. Young children perish under the influence of continued high temperature in every crowded district in the city, while adult life has in these successive summers suffered a less rate of mortality than in the other portions of the year. During the week ending July 10, 75 cases of diphtheria and 116 cases of smallpox were reported, and during the week ending July 17, 64 cases of diphtheria and 102 of smallpox.

The attention of the Board of Health has been called to the fact that there were 14 deaths from drowning during the week ending July 10, and 32 in the four weeks preceding. As most of the accidents occurred at those sections of the river-sides at which the Health

Department's rescue-apparatus and posted instructions for resuscitating from drowning are not sufficiently near, some lives were no doubt lost for want of the rescue-poles and heaving-lines.

The Fifth Annual Report of the St. Mary's Free Hospital for Sick Children shows that the affairs of that institution—the only child's hospital proper in this city—are in a flourishing condition. The work was inaugurated in 1870, by the Sisters of St. Mary, of the Protestant Episcopal Church, when a house was taken in Fortieth Street, admitting of fifteen beds. This was soon found to be too small, however, and in 1873 the children were removed to their present house in West Thirty-fourth Street, where twenty-six can be accommodated. Here, it was thought, the additional room and more convenient accommodations would prove sufficient for some years to come. The location was good, and the large open garden at the side of the house afforded a healthful breathing-space for such children as were able to go out of doors. During the last two years, however, the work has increased so constantly that a much larger building seems to be a positive necessity, and it is now proposed to purchase the premises already occupied (which have hitherto been rented), and put up a large addition to the house, for which there is ample room on the space adjoining without interfering too much with the children's playground. A number of ladies are in the habit of visiting the hospital from day to day, for the purpose of teaching, reading to, and amusing the children, and who also make, donate, and mend a large quantity of clothing for them. Twenty-five parishes are represented in the Board of Managers, and the managers desire that one or more ladies from every Episcopal church, not only of the city but of the State, should belong to it, in order to make the hospital as general an institution as possible.

The report of the Medical Staff shows that the number of patients in hospital both January 1, 1874, and December 31, 1874, was 21, and that during the year 73 were admitted, and 13 died. The following operations were performed in the same time: exsection of hip, 2; exsection of elbow, 1; for entropion, 1; circumcision, 2; fracture of arm, 1; removal of os calcis, 1; for necrosis of humerus, 2; removal of foreign body from ear, 1.

During the winter there was a slight outbreak of diphtheria, from which one patient died, and a number of children later in the season were attacked with röthelea, or German measles, but there were no fatal cases. The physicians attribute the success attending their treatment in general, in a great degree, to the careful and intelligent nursing received by their little patients. "No one at all conversant with the system of nursing generally adopted in hospitals," say they, "can help being impressed with the superior advantages of the plan pursued here, where the nursing is under the constant and personal supervision of Sisters thoroughly educated as nurses. There is no class of patients who require more constant watching, more gentle attention, and more kindly discipline than do sick children; and no one

can be so well qualified to carry out these requirements as ladies who give themselves to the work solely from a love for the work itself, and for the little ones committed to their care." Drs. Robert Watts and Charles Poore are the attending, and Drs. Flint, Sr., Alonzo Clark, George Peters, and Erskine Mason, the consulting physicians and surgeons.

Drs. Isaac E. Taylor and Gouverneur Smith having resigned their positions as attending physicians to Bellevue Hospital, Drs. A. B. Crosby and J. P. P. White have been appointed in their places, and Dr. Taylor has been made consulting physician.

Dr. Pallen has been appointed attending surgeon to Charity Hospital in the place of Dr. White, resigned.

PERTINAX.

## REVIEWS AND BOOK NOTICES.

**LESSONS ON PRESCRIPTION-WRITING AND THE ART OF PRESCRIBING.** By W. H. GRIFFITHS, Ph. D., L.R.C.P.E. London, Macmillan & Co.

This little duodecimo of one hundred and fifty pages is agreeably written, and is the most elaborate and satisfactory exposition of the subject on which it treats that we know of. We can heartily recommend it to any one seeking such knowledge as it contains.

**TWO THOUSAND YEARS AFTER; OR, A TALK IN A CEMETERY.** By JOHN DARBY. Claxton, Remsen & Haffelfinger, Philadelphia.

This little book is not medical in a strict sense of the word; and therefore those readers of the *Times* who value a paragraph only as it affords them immediate additions to their armament for war with disease, may as well skip the present notice. To all thinkers in the profession, the brochure of Dr. Garretson upon a subject which ought to interest every man, and which lies very close to many of the higher disease-problems, must have interest. The writer of the present notice is not a philosopher, and therefore must beg the author's pardon for presuming to criticise his really extraordinary book. We remember, however, to have heard an artist say that he liked to hear the comments of the laity upon his pictures, for, although many ridiculous things were said, yet every now and then a shrewd remark would give him much food for thought.

The book is written in the form of a dialogue, at a supposed reunion of the participants in the immortal controversy that took place on the day of the death of Socrates, concerning the immortality of the soul. It is, as it were, an addendum to the *Phædo* of Plato.

Dr. Garretson is a positivist, holding allegiance to the belief that mind is but the result of organization, and, therefore, cannot be immortal, but, at the same time, claims for man immortality. His chief argument may be summarized as follows:

Man has six senses, so have other animals. Man in this does not differ from a brute; but man has the power of knowing God, and animals have not. Therefore, man differs from the animal in that he possesses what Dr. Garretson calls the sense of *Apprehension*. Further, all men do not use this sense of Apprehension, and consequently never know God. To know God, in our author's sense, is to have God dwell in one, and to have God dwell in one is to "grow a soul"; or, in other words, the soul of a man is a part, if the term may be allowed, of God. Some men, refusing to use the sense

of Apprehension, never grow a soul, and die, as the beasts die, to rot,—nothing more.

It seems to us very plain where the fallacy is in this argument. It is in the assumption that animals do not have the idea of God. How does Dr. Garretson or any one else, as a philosopher,—*i.e.*, outside of revelation,—know that animals have not the glimmerings of such an idea; that precisely as in them all the mental powers of man are found foreshadowed, so is also his power of conceiving of the idea of God? The author meets this objection in part by pinning his reader on the other horn of the dilemma: if there be no difference between man and animals, then must they share in death a common fate. But, as a philosopher, how does any one know that man is immortal, or that animals are mortal? Even some learned orthodox theologians have believed that animals do share the immortality of man.

Again, granting that man does differ from the brute in the possession of Apprehension, Dr. Garretson, to our mind, does not prove that this property of Apprehension is not due to the possession of a soul. Let us put the two objections together. Man being organized as animals, if "Apprehension" be a mere result of organization, it must, like every other result of organization in man, be shared by the lower animals. Hence they must also have the power of knowing God and growing a soul. Or, on the other hand, if "Apprehension" exist in man but not in animals, it cannot be the result of organization, as its existence in man proves that he has a something in himself which is not the result of organization, and which we call soul. Therefore, man may grow—*i.e.*, develop—the soul and become God-like, but the soul that is perfected exists in him from the first.

We do not put this forward as an irrefragable argument, but as one to our thinking, at least, as valid as that of our author. Its logical outcome seems to us in accordance with the Christian idea of the future state, whilst that of the argument of Dr. G. is Buddhism; for if man simply allows himself to have God dwell in him, after the death of the man the God must go whence he came,—*i.e.*, the part that has emanated from the Deity must be absorbed into the Deity, when the casket in which it was confined has been broken.

Dr. Garretson attempts to reconcile his belief with the preservation of the individuality of the man. He says, "Are not the individualities of children as entities, and yet is it to be denied that parent and son are one?" We think any one not a philosopher would not hesitate in his answer to this question. To assert that Adam is the whole human race, past, present, and future, seems scarcely judicious in one who wants to convince ordinary minds.

The perusal of the book before us has confirmed a cherished belief that philosophy, so called, is, like alchemy, an endless search after the unfindable.

God can be known to the race only by manifesting himself. The finite cannot by searching find out the infinite, and the revealing God can only prove to man his Godhead by working miracles,—*i.e.*, by commanding or suspending the ordinary laws of nature. This, if the Scriptures be historically correct, he has done; if they be not true, we have no hope. The belief in the immortality of the soul and the truth of the gospel must, to our thinking, stand or fall together. We see no logical ground midway between the most absolute positivism and the acceptance of the Scriptures.

Almost every decade has its philosopher, and, from Thales to the latest modern, each has been a law to himself. If the reasoning of his fellows has ever changed the belief of a philosopher, we are unaware of it. In science truth is demonstrated, and all men acknowledge it; in philosophy truth cannot be demon-

strated, and each man sets up his own conception,—the outgrowth of the law of his being and his circumstances, which he worships as the truth. Not that we condemn philosophy; far from it. Everything has its uses, and as alchemy brought forth so many valuable discoveries, so has philosophy begotten multitudes of the highest of human thoughts; and the book before us, sharing, as we believe, the common fate of other works of its class, in missing the truth, yet gathers so much of beauty, and throws out so much of suggestion, that we have read it not only with deep interest, but with a resultant of actual good.

### GLEANINGS FROM OUR EXCHANGES.

**MODUS OPERANDI OF YELLOW-FEVER POISON** (*New Orleans Medical and Surgical Journal*, July, 1875).—Dr. George M. Sternberg, Assistant-Surgeon U.S.A., after considering at length the various theories in regard to the causation of yellow fever, concludes that the evidence is sufficiently convincing as to the implication of the sympathetic nervous system in yellow-fever poisoning, but that we have no evidence that blood-changes occur prior to the implication of the sympathetic which marks the outbreak of the disease.

The action of the poison upon the sympathetic seems to be a paralyzing one, causing arrest of function, and producing phenomena similar to those following division of the sympathetic in any part of the body.

Whether the blood is also primarily affected by the poison, or whether the changes in it are all secondary to arrest of the processes of nutrition, secretion, and excretion, may be considered a question still *sub judice*.

The fact, however, that in cases which terminate fatally within a day or two the blood is found to be fluid, the red corpuscles more or less disorganized, and the haematin to have stained the tissues of the body, makes it probable that the poison also acts directly upon the blood; but that this action is of the nature of a fermentation, there is not the least evidence.

He suggests galvanization of the sympathetic, or the use of ergot, in the treatment of yellow fever.

**CONVULSIONS IN A MALE, ASSOCIATED WITH VESICAL CALCULUS** (*The American Practitioner*, July, 1875).—Dr. W. H. Long reports the case of a young man æt. 19, of an excitable, nervous temperament, who, after some slight physical exertion, was suddenly taken with a dull headache.

He was persuaded to lie down, and in a few minutes all the voluntary muscles of his body became rigid; his eyes were fixed with a vacant stare; his breathing was labored, resembling that of a child with false croup. No effort could rouse him to consciousness, and the laryngeal spasm became rapidly worse and the muscular contractions irregular. His body was bent, first on one side, then on the other; sometimes twisted and then bent back, as in tetanus. Occasionally the laryngeal spasm was so great as to suspend respiration entirely, and during the time of this suspension the convulsive movements of the body were extraordinary.

This condition lasted for about six hours, and was succeeded by a quiet natural sleep, on awakening from which he had no recollection of his convulsive attack. These paroxysms continued for several days. He was put upon thirty-grain doses of bromide of potassium three times a day, with citrate of iron and strychnine every six hours. Subsequently, morphia was added, and was given for two weeks. He was then free from trouble for some weeks, when his paroxysms suddenly returned, and about the same time he exhibited symptoms which indicated the passage of a calculus from the left kidney to the bladder. He was then under treat-

ment for about six months, gradually improving, when a stone was discovered in his bladder. Lithotripsy was performed, the fragments were all discharged, and since that time the patient has remained perfectly healthy, is stout and robust, and has had no return of his troubles.

**PUERPERAL TETANUS** (*Edinburgh Medical Journal*, June, 1875).—Dr. Angus Macdonald reports a case of puerperal tetanic convulsions occurring in a woman æt. 24, about two weeks after her second confinement. He gives the following points as differentiating the case from an ordinary case of eclampsia:

1. The spasms were distinctly *tonic*, and not clonic or mixedly tonic and clonic, as we find in cases of eclampsia.

2. The pupils were somewhat *contracted* and fixed, instead of *dilated* and fixed, as is the ordinary condition in deep eclampsia.

3. The face continued pale during the seizures, instead of becoming congested as in eclampsia.

4. The contractions were very markedly more powerful in the posterior aspect of the body, so as to establish a condition of more or less continuous and complete opisthotonus.

5. The rate of recurrence of the spasms was much more rapid than in any case of eclampsia that he had witnessed, and his experience refers to a large number of cases.

6. The spasms were capable of being excited and intensified by the slightest external stimulus or irritation, such as the touch of the cold hand, or examining any part of the body by tactile manipulation, which is not the case in eclampsia.

7. There was no albuminuria present, which we generally, though not invariably, find in cases of puerperal eclampsia.

On the other hand, the first attack was very sudden; the breathing was stertorous during the individual seizures; the patient was completely unconscious, and these considerations, together with her general aspect, were forcibly suggestive of eclampsia. The preponderance of symptoms, however, tended to prove the existence of a tetanic rather than an eclampsic condition.

**IDIOCY** (*St. Louis Clinical Record*, July, 1875).—Dr. Alexander B. Shaw reports the case of a family among the members of which idiocy exists to a remarkable degree without there seeming to be on either paternal or maternal side any circumstance pointing to insanity. There is an entire absence on both sides of paralysis, fits, idiocy, tuberculosis, scrofula, syphilis, etc. Consanguinity is denied, and the individual histories of both parents are entirely devoid of any explanatory feature. Four out of five children born during a period of ten years are drivelling idiots.

**UTERINE THERMOMETRY** (*The St. Louis Medical and Surgical Journal*, July, 1875).—Dr. William Schlesinger has made a series of thermometric measurements to compare the temperature of the healthy non-pregnant uterus (cervix and fundus) with that of the axilla, vagina, and rectum. The instrument used is a thin, slightly-curved, long, bulb thermometer, guarded by a delicate metal case. It must not be introduced with the aid of the speculum, as contact of the cervix with the atmosphere reduces the temperature, and the thermometer must then remain in place a much longer time to indicate the temperature proper of the organ. His results show that the difference between the temperature of vagina and axilla and of uterus and axilla is greater in the non-pregnant than in the pregnant womb, and that the difference between uterus and vagina is about the same in the pregnant and the unimpregnated female.

The practical deduction is that the assertion of former authors who claim that the increase of temperature in the pregnant uterus over that of the vagina was owing to the heat generated by the fetus, cannot hold good; the same difference of temperature exists between the non-impregnated uterus and vagina.

The author is, however, not prepared to deny the fact that the death of the fetus *in utero* will cause a diminution of temperature in the uterine cavity so that it will sink to a level with that of the vagina, and that a correspondence in the temperature of a pregnant uterus and the vagina may indicate the death of the fetus.

**HIRSUTIES GESTATIONIS** (*The Medical Record*, July 10, 1875).—Dr. Charles E. Slocum reports the case of a lady, æt. 22, who has borne three children at full term, and suffered one abortion at six or eight weeks. In each gestation a hairy growth on the side of the face and under the chin has uniformly started at the commencement of pregnancy or soon after the cessation of the menses, and continued until childbirth.

Her attention is first called to the parts soon to be covered with hair by a sense of heat and itching, which is allayed but a short time by rubbing, and which continues about three months, with more or less annoyance, and then subsides, to return again after accouplement and remain until the falling of the hair.

The hair is thick-set, fine and soft in texture, straight, and lighter in color than the hair of the head. Its length at childbirth is one to one and a half inches, when its growth apparently stops, and after a period of time varying from four to six months (first child six months, second and third children four to five months), or about the time when the uterine system resumes its catamenial functions, it falls, and the face resumes its normal smoothness.

This hirsute condition during gestation is the only peculiarity in the lady's history. She has uniformly enjoyed health. The menstrual flux was established when she was between thirteen and fourteen years of age, appeared regularly, and was attended with no peculiarity. From the age of fifteen to the time of her marriage, two years later, she suffered slightly from dysmenorrhœa, but not since marriage.

At the time of her abortion the growth of hair on the face was very noticeable, and she became so soon again pregnant that the growth continued until the second conception was completed.

There has been nothing peculiar in the appearance of her children.

Mrs. R. is of medium height and size, with dark-brown hair, hazel eyes, and a fair skin, which becomes of a darker hue when she is in the pregnant state. There was but little nausea following conception, and she was vigorous and able to attend to her household duties at all times. No change or peculiarity other than that already noticed occurs.

## MISCELLANY.

**HÆMOSTASIS IN SURGERY.**—What shall we do with the arteries after surgical operations? It seems now to be a matter of taste; for, to take only the hospitals of London, it will be found that acupressure, torsion, and the ligature, either with silk or catgut, are severally practised in different institutions. No one will, however, complain that various means should be at hand; it is for the surgeon to decide which is the most appropriate in a given case. Much may depend, however, on

whether ischaemia (Esmarch's compression) be used or not. Torsion is a favorite practice in some hospitals; but we have seen abundant secondary hemorrhage after it, and statistics in this respect are wanting. We are, no doubt, far from the time when hot oil was used; and we may boast of a gigantic stride in regard to haemostasis, though we are apt, now and then, to fall back upon the practice of our ancestors. And here we have Professor Verneuil, of Paris, who is strongly advising *forci-pressure*, which, as the Professor mentions, was first practised by Desault in 1790. It chiefly consists in the application of forceps with continuous pressure, which may be kept up from twenty-four to forty-eight hours without inconveniencing the patient. The instrument has even been known to remain until it became spontaneously detached. The blades may be smooth or toothed, the latter acting more quickly, and, in most cases, successfully. M. Verneuil is convinced that this practice, so long neglected, will not again be so unaccountably abandoned.—*London Lancet*.

DR. PETER, of St. Antoine Hospital, mentions having seen the use of a bath produce most mischievous effects in pelvi-peritonitis. He explains the fact in the following way. On entering the bath, and in order to stride over the edge of it, the woman makes a violent movement, which destroys some of the adhesions established around the internal genital organs, and this rupture becomes the starting-point of a new onset of peritonitis.—*Lancet*.

## NOTES AND QUERIES.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—I am sorry if it has been my mistake that in the discussion on chloral, McRean has been credited with the remarks of Dr. A. F. Shelley. It will be no less alarming to McRean than annoying to Shelley.

Very truly,

H. LEAMAN,  
Reporting Sec.

July 26, 1875.

## OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM JULY 27, 1875, TO AUGUST 2, 1875, INCLUSIVE.

BROOKS, JOHN, ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 153, A. G. O., July 27, 1875.

ELBREY, F. W., ASSISTANT-SURGEON.—Granted leave of absence for twenty days, and, upon its expiration, assigned to duty at Frankfort, Kentucky. S. O. 106, Department of the South, July 27, 1875.

PAULDING, H. O., ASSISTANT-SURGEON.—Telegraphic instructions of 21st inst. from these Headquarters, directing to proceed, with all possible dispatch, to Fort Randall, D. T., for duty at that Post, confirmed. S. O. 141, Department of Dakota, July 24, 1875.

MAUS, L. M., ASSISTANT-SURGEON.—Assigned to duty at Nashville, Tennessee. S. O. 106, c. s., Department of the South.

TAYLOR, B. D., ASSISTANT-SURGEON.—Assignment at the United States Military Academy revoked, and ordered to report in person to the Commanding General, Department of Dakota, for assignment to duty. S. O. 151, A. G. O., July 24, 1875.

HAL, W. R., ASSISTANT-SURGEON.—Assigned to duty at Fort Gratiot, Michigan. S. O. 144, Military Division of the Atlantic, July 26, 1875.

SHANNON, WILLIAM C., ASSISTANT-SURGEON.—Assigned to duty at Fort Porter, New York. S. O. 144, c. s., Military Division of the Atlantic.

SPENCER, WILLIAM G., ASSISTANT-SURGEON.—Assigned to duty at Lebanon, Kentucky. S. O. 106, c. s., Department of the South.

ROSSON, R. L., ASSISTANT-SURGEON.—Assigned to duty at Fort Monroe, Virginia. S. O. 144, c. s., Military Division of the Atlantic.